

REMARKS

This Amendment is submitted in response to the final Office Action mailed on December 10, 2008. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112857-518 on the account statement.

Claims 11-18 are pending in this application. In the Office Action, Claims 11-18 are rejected under 35 U.S.C. §103, and Claim 19 is rejected under 35 U.S.C. §112. In response, Claims 11, 14, 16 and 18 have been amended. Claim 20 has been newly added. The amendments and new claims do not add new matter. At least in view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the objections and rejections should be withdrawn.

In the Office Action, Claims 11-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application No. 2004/0032214 A1 to Lee et al. ("*Lee*") in view of U.S. Patent Application No. 2004/0012331 A1 to Yamazaki et al. ("*Yamazaki*"). In response, Applicants have amended independent Claims 11 and 18. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the cited references fail to disclose or suggest each and every element of independent Claims 11 and 18 and Claims 12-17 that depend therefrom.

Currently amended independent Claims 11 and 18 recite, in part, an organic EL device comprising: a plurality of light emitting layers including a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode; and an intermediate layer comprised of an organic material provided in at least one location between the light emitting layers, said intermediate layer having an electron blocking property and a hole transporting property, wherein the green light emitting layer has a hole transporting property and an electron transporting property. These amendments do not add new matter. The amendments are supported in the Specification at, for example, paragraph 70.

Organic electroluminescence (EL) devices are desirable because they are displays capable of being driven with low power consumption. See, Specification, paragraph 2, lines 4-9. In order to achieve a full-color display mode, an organic EL device is combined with color filters which transmit light only in the blue, green and red wavelength regions. See, Specification, paragraph 3, lines 1-6. Prior art organic EL devices include a blue light emitting layer, a green

light emitting layer and a red light emitting layer laminated in respective order from the hole transport layer side and including three wavelength light emission components. See, Specification, paragraph 3, lines 6-11. However, such prior art devices have an insufficient balance of luminous intensities in the blue, green and red wavelength regions. See, Specification, paragraph 4, lines 1-4. Therefore, the present claims provide an organic EL device with a good balance of luminous intensities between the red, green and blue wavelength regions. See, Specification, paragraph 5, lines 1-4. The organic EL device includes red, green, and blue light emitting layers laminated in that order between an anode and a cathode with an intermediate layer provided between the light emitting layers. See, Specification, paragraph 6, lines 1-6. The intermediate layer prevents the energy of excitons generated by one light emitting layer from being transferred to the other light emitting layers, thereby maintaining a good balance of luminous intensities between the light emitting layers. See, Specification, paragraph 7, lines 1-8. Furthermore, the green light emitting layer has both an electron transporting property and a hole transporting property to ensure a good balance of luminous intensities by: (1) allowing some of the holes injected in the red light emitting layer to contribute to emission in the green and blue light emitting layers; and (2) allowing some of the electrons injected in the blue light emitting layer to contribute to light emission in the red and green light emitting layers. See, Specification, paragraph 47, lines 1-12. In contrast, the cited references fail to disclose or suggest every element of the present claims.

For example, the cited references fail to disclose or suggest a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode, where an intermediate layer having an electron blocking property and a hole transporting property, as recited in part, by currently amended independent Claims 11 and 18. The Examiner asserts that *Lee* discloses a red light emitting layer, a green light emitting layer and a blue light emitting layer with an intermediate layer provided between the light emitting layers. See, Office Action, page 3, lines 4-9. However, nowhere does *Lee* disclose that the layers are in the order "anode/red/green/blue/cathode" as admitted in the Office Action. See, Office Action, pg. 3. However, the current specification describes specific reasons as to the importance of the color order of the light emitting layers.

In an example, a red light emitting layer 11 is configured by combining the required materials appropriately selected from (a) a red light emitting material (fluorescent or

phosphorescent), (b) a hole transporting material, (c) an electron transporting material and (d) a positive and negative charge transporting material. (See, Specification, paragraph [0042]). Each of these materials is used together with a single or a plurality of materials appropriately selected from among the following material categories, as required, for securing light emission performance and hole transport performance. (See, Specification, paragraph [0042]). Specific examples of (a) red light emitting material include bis(aminostyryl)naphthalene (BSN) represented by the following formula (1), which is a styrylarylene derivative. (See, Specification, paragraph [0044]). Such a styrylarylene based material can be used to dope a host material therewith in a high concentration, and has a hole transporting property due to its triphenylamine skeleton. (See, Specification, paragraph [0044]). Therefore, when such a red light emitting material is used, efficient red light emission and a high hole transporting property can be obtained, **which is the reason why it is preferable to form the red light emitting layer 11 in contact with the hole transport layer 10.** (See, Specification, paragraph [0042]). The blue light emitting layer 13 according to the present invention is so configured that the energy of excitons generated through re-coupling of positive and negative charges in the blue light emitting layer 13 is made to contribute to the light emission in the blue light emitting layer 13 while minimizing the movement of the energy into the red light emitting layer 11 and the green light emitting layer 12. (See, Specification, paragraph [0056]). Therefore, **it is preferable for the blue light emitting layer 13 to be provided on the most cathode 5 side.** Accordingly, the presently claimed ordering of the red, green and blue light emitting layers is not disclosed or suggested in *Lee*, nor are the above disclosed reasons for having the red light emitting layer contacting the anode side and the blue light emitting layer contacting the cathode side discussed.

Yamazaki is entirely directed to a light emitting device having **an organic compound in which heat generation can be effectively removed or decreased.** See, *Yamazaki*, paragraph 11, lines 1-4. The Examiner relies on *Yamazaki* merely for the disclosure of utilizing red, green and blue light emitting layers to generate white light. See, Office Action, page 3, lines 11-15. Nowhere does *Yamazaki* discuss the features described above with regard to the order of the layering of the light emitting layers. Therefore, the cited references fail to disclose a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order between an anode and a cathode, wherein the green light emitting layer has a hole

transporting property and an electron transporting property as required, in part, by the present claims.

Accordingly, Applicants respectfully request that the rejection of Claims 11-18 under 35 U.S.C. §103(a) to *Lee* and *Yamazaki* be withdrawn.

The Office Action rejected Claim 19 under 35 U.S.C. §112. This rejection has been rendered moot in view of cancellation of same.

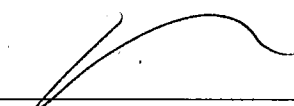
In addition, for the reasons discussed above, and for the additional elements recited therein, Applicants respectfully submit that new Claims 20-21 should be considered allowable.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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